



News Release

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Utah's Winter Inversions Take Toll on People with Asthma

(Salt Lake City, UT) – In an effort to understand Utah's infamous temperature inversions and how they impact people with asthma, the Utah Department of Health (UDOH) and its partners analyzed changes in pollution levels during winter inversions (2006-2008) and correlations with asthma-related visits to emergency departments (EDs) in Salt Lake County.

Major findings of the analysis by the UDOH Asthma and Environmental Epidemiology Programs, the National Weather Service, and other partners included:

- No association was found between PM_{2.5} pollutants and ED visits for asthma, including up to three days after exposure.
- PM_{2.5} pollutant levels are generally higher during inversions, but tend to exceed EPA standards primarily during inversions lasting 3-4 days or longer.
- People with asthma are 42% more likely to go to an ED during the 5th-7th days of a continuous inversion compared to days with no inversion.

Data suggest that it is the length of an inversion, rather than an inversion itself, that is a determining factor in ED visits for asthma. Simply put, the longer an inversion lasts, the higher the likelihood a person with asthma will wind up in an emergency room with serious symptoms.

"While we didn't see an association with PM_{2.5} pollution and ED visits for asthma," said UDOH Asthma Program Epidemiologist Celeste Beck, "we did find that particulate matter is more likely to reach unhealthy levels during inversions, so people with asthma should still take extra precautions on those days."

The challenge for UDOH and its partners now is to do more analysis to uncover what it is about lengthy inversions that sends people with asthma to the ED.

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“This analysis has increased our understanding of the health impacts of inversions,” said UDOH Health Program Specialist Rebecca Jorgensen. “Our aim now will be to try to uncover the other health impacts of inversions for people with asthma, like doctors’ office visits, medication use, and even other possible pollutants.” Jorgensen added

“The bottom line,” says Celeste Beck, “is that the analysis shows people with asthma need to be especially vigilant throughout an inversion to reduce their exposure to asthma triggers and manage their symptoms.”

The UDOH Asthma Program recommends that, during inversion season (November to March), those with asthma should:

- Check PM_{2.5} levels, especially during inversions.
- Take extra precautions, especially during inversions lasting longer than 5 days, including:
 - Avoiding or limiting exposure to all asthma triggers during the inversions;
 - Washing hands regularly and avoiding people with upper respiratory infections; and
 - Talking to their doctor about taking steps to control asthma, and consider stepping up use of controller medications.

Analysis results and a full summary of the study can be found on the Asthma Program Website at <http://health.utah.gov/asthma/>.

Pollution levels are updated hourly and can be found at <http://www.airquality.utah.gov/>. Click on “current conditions.”

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The mission of the Utah Department of Health is to protect the public’s health through preventing avoidable illness, injury, disability and premature death, assuring access to affordable, quality health care, and promoting healthy lifestyles.